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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,744	06/20/2005	Toshio Toshima	13006.110	8624

7590 11/17/2006

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20916 Mack Avenue  
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Grosse Pointe Woods, MI 48236

EXAMINER

BOCHNA, DAVID

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 11/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/539,744	Applicant(s) TOSHIMA ET AL.	
	Examiner David E. Bochna	Art Unit 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 8-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                 | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement filed 6/20/06 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

### *Claim Objections*

2. Claim 9 is objected to because of the following informalities: claim 9, second to last line, contains a grammatical error. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Nagao et al.

In regard to claim 1, Nagao et al. discloses a pipe joint with earthquake-proof function, wherein a lock ring 25 is accommodated in a lock ring accommodating groove 22 formed at an inner surface of a socket of one pipe configuring said pipe joint,

a projection 12 formed at an outer periphery of a distal end of a spigot of another pipe, configuring said pipe joint and being inserted to said socket, is configured to be able to engage

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with the lock ring 25 from the socket inner side, disengagement of the spigot from the socket is prevented as said lock ring is configured to be able to engage with said accommodating groove, a tapered surface 26, 27 converging toward the opening side of the socket is formed on at least one of a portion of said lock ring engaging the accommodating groove and a portion of said accommodating groove engaging the lock ring, and

when a disengagement prevention force in a pipe axial direction for preventing the spigot from being disengaged from the socket by said engagement is transmitted from the accommodating groove to the lock ring through the tapered surface, a line of action of a component force of said disengagement prevention force in a direction perpendicular to said tapered surface passes the opening side of the socket of a contacting point between a socket bottom end part of the lock ring and the outer periphery of the spigot along the outer surface of the spigot (see fig. 6).

5. Claims 1-2 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Clifford.

In regard to claim 1, Nagao et al. discloses a pipe joint with earthquake-proof function, wherein a lock ring 12 is accommodated in a lock ring accommodating groove 10 formed at an inner surface of a socket of one pipe configuring said pipe joint,

a projection 5 formed at an outer periphery of a distal end of a spigot 3 of another pipe, configuring said pipe joint and being inserted to said socket, is configured to be able to engage with the lock ring from the socket inner side, disengagement of the spigot from the socket is prevented as said lock ring is configured to be able to engage with said accommodating groove,

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a tapered surface 10 converging toward the opening side of the socket is formed on at least one of a portion of said lock ring engaging the accommodating groove and a portion of said accommodating groove engaging the lock ring, and

when a disengagement prevention force in a pipe axial direction for preventing the spigot from being disengaged from the socket by said engagement is transmitted from the accommodating groove to the lock ring through the tapered surface, a line of action of a component force of said disengagement prevention force in a direction perpendicular to said tapered surface passes the opening side of the socket of a contacting point between a socket bottom end part of the lock ring and the outer periphery of the spigot along the outer surface of the spigot.

In regard to claim 2, wherein the tapered surface 10 is formed at the portion of the lock ring engaging the accommodating groove, and an inclination angle of the tapered surface with respect to the spigot outer surface changes in accordance with a distance in a radial direction from the spigot outer surface to said engaging portion (the angle of the bottom 45 degree angled surface of 12 is different than the 60 degree angle of the top angled surface of 12).

In regard to claim 7, wherein the tapered surface 10, 12 is formed on both the portion of the lock ring engaging the accommodating groove and the portion of the accommodating groove engaging the lock ring, and

when the lock ring is accommodated in the accommodating groove with said tapered surfaces not facing each other, the tapered surface of the accommodating groove and the outer periphery other than the tapered surface of the lock ring contact and the lock ring is not able to be accommodated up to the bottom side of the accommodating groove, and thus the lock ring

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protrudes inward in the radial direction from the accommodating groove, the spigot projection contacts said protruding portion when inserting the spigot to the socket, and the spigot is not able to be inserted into the socket (if the ring 12 was placed into the groove reversed from the position disclosed in fig. 2, the right angle corner of 12 would contact the slanted surface 10, stopping the ring from entering into the groove 10 of the socket).

*Allowable Subject Matter*

6. Claims 3-6 and 8-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

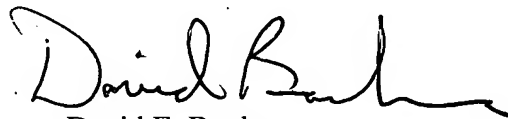
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maki et al., Yamaji et al., Nakajima et al., Japanese Patent 5,458,221, Japanese 5,334,126, Japanese patent 5,229,625, and Japanese Patent 5,229,624 all disclose similar couplings common in the art.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Bochna whose telephone number is (571) 272-7078. The examiner can normally be reached on 8-5:30 Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read "David Bochna", with a stylized flourish at the end.

David E. Bochna  
Primary Examiner  
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